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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/634,912	08/09/2000	Naomasa Shimojoh	1344.1043/JDH	5324

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EXAMINER

CUNNINGHAM, STEPHEN C

ART UNIT	PAPER NUMBER
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3663

DATE MAILED: 10/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/634,912

Applicant(s)

SHIMOJOH ET AL.

Examiner

Stephen C. Cunningham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12, 14 and 18-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12, 14, 18-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 August 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

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## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-12, 14, 18-30 are rejected under 35 U.S.C. 101 because the claimed invention is not supported by either a specific asserted utility or a well established utility.

Independent claims 1 and 18 both recite the limitation "optical amplifying means amplifying pump light in the first wavelength band using a rare earth element doped fiber to which excitation light is supplied." The instant application does not disclose a pump light amplifier, rather it discloses a WDM signal light amplifier.

Claims 1-12, 14, 18-30 are also rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either a specific asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

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1. Claim 31 is rejected under 35 U.S.C. 102(e) as being anticipated by Kidorf et al.

Kidorf et al. teach an optical amplifier comprising:

optical amplifying means amplifying a first wavelength band of said WDM signal using a rare earth doped fiber;

excitation light used has a wavelength capable of producing Raman amplification with respect to optical signals of said second wavelength band (L-band); and

amplifying means supplying excitation light which has Raman amplifying capable in the second wavelength band light to a Raman medium on a pre-stage side.

See figure 6, and column 4, lines 18-25, wherein pump light from pump source 673 pumps EDF 654 and is then supplied to fiber 634 on the pre-stage side of EDF 654 and therein produces Raman gain to signal light. The first and second wavelength bands are any arbitrary sub-bands in the amplification range comprising more than 2 wavelengths in each band.

Raman amplification occurs at a wavelength approximately 100 nm longer than the pump wavelength. The detuned pump source pumps with a wavelength up to 1510nm, which results in amplification at approximately 1610 nm (L-band amplification).

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2. Claims 32 is rejected under 35 U.S.C. 102(e) as being obvious over Ma et al.

With respect to claims 32, Ma et al. teach a parallel architecture optical amplifier comprising plural amplification stages wherein each amplification stage may be chosen to be either Raman amplification stage or rare earth doped fiber amplifier (EDFA). Raman amplification band is dependent on the pump wavelength. Erbium is known to provide amplification in both the C and the L bands. Choosing the second band amplifier to be Raman is taught by Ma.

1. Claim 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Ma et al.

With respect to claim 33, Ma et al teach an amplifier, amplifying in a c-band and an l-band comprising:

an optical amplifier, amplifying wavelength division multiplexed signal light which amplifies in a C band;

at least one parallel amplifying unit to amplify in an L band containing a plurality of L band signals wherein, providing Raman amplification in the L band;

said optical amplifier provides Raman amplification to optical signals of a second wavelength band (either in the pre-stage side or in the second amplifying unit), see figure 4, and column 2 line 30 through column 3, line 3 and column 1, line 64 through column 2, line 9. The Ma reference teaches maintaining a

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constant gain across the signal spectrum, indicating an inherent c/l ratio control section.

***Allowable Subject Matter***

Claims 34, 35, and 36 are allowed.

The following is an examiner's statement of reasons for allowance: The nearest prior art is Ma et al. which fails to teach supplying residual pump power from the first amplification stage to provide Raman gain in the second wavelength range..

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Response to Arguments***

Applicant's arguments with respect to claims 1-12, 14, 18-30 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

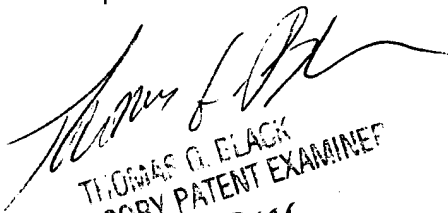
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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen C. Cunningham whose telephone number is 703-605-4275. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Black can be reached on 703-305-8233. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9327 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

  
THOMAS G. BLACK  
SUPERVISORY PATENT EXAMINER  
GROUP 3663